

Page 10222222 please
Paul Schultwitz

Access DB# 7/16/02

SEARCH REQUEST FORM

See 09/361, 816

Scientific and Technical Information Center

Requester's Full Name: SABINA GAZI Examiner #: 74141 Date: 7/19/02
Art Unit: 1614 Phone Number 305-3910 Serial Number: 10/057,423
Mail Box and Bldg/Room Location: 2D19, CM1 Results Format Preferred (circle) PAPER-DISK E-MAIL
3807

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched:
Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers; and combine with the concept or
utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if
known: Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Soil treatment composition + item ux

Inventors (please provide full names): SIMON ALEXANDE HANSON ROSE et al
(SIMON A. H. ROSE et al.)

Earliest Priority Filing Date: 7/31/1998 Ciba Specialty Chemical

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the
appropriate serial number. UK 9 816784.4 7/31/1998 Ciba

Please search for an aqueous soil
treatment composition comprising
an water soluble amino polymer &
water soluble fertilizer.

Pl. note fertilizers are mostly water
soluble.

Please see attached sheets

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Thank you

POINT OF CONTACT:
PAUL SCHULTWITZ
TECHNICAL INFO. SPECIALIST
CM1 6806 TEL (703) 305-1954

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	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: <u>8/1</u>	Bibliographic <input checked="" type="checkbox"/>	Dr. Link _____
Date Completed: <u>8/13</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>60</u>	Fulltext <input checked="" type="checkbox"/>	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

=> b agricola

FILE 'AGRICOLA' ENTERED AT 10:17:55 ON 13 AUG 2002

FILE COVERS 1970 TO 11 Jul 2002 (20020711/ED)

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d que 112

L3	291	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZER TECHNOLOGY/CT
L4	289	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZER ANALYSIS/CT
L5	4485	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZERS/CT
L6	51	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZER COMBINATIONS/CT
L7	44	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	ACRYLAMIDES/CT
L8	0	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	POLYACRYLAMIDES/CT
L9	290	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	POLYACRYLAMIDE/CT
L10	4	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	POLYMERS/CT(L) (WATER SOL? OR AQUE?)
L12	1	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	(L3 OR L4 OR L5 OR L6) AND (L7 OR L8 OR L9 OR L10)

=> d que 113

L3	291	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZER TECHNOLOGY/CT
L4	289	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZER ANALYSIS/CT
L5	4485	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZERS/CT
L6	51	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	FERTILIZER COMBINATIONS/CT
L13	3	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	(L3 OR L4 OR L5 OR L6) AND POLYMERS/CT

=> d que 117

L14	111	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	(FERTILIZ? OR FERTILIS?) (P) (POLYMER? OR ACRYLAMID? OR POLYACRYLAMID?)
L17	5	SEA	FILE=AGRICOLA	ABB=ON	PLU=ON	L14 AND (AQUE? OR (H2O OR WATER) (3A) SOL?)

=> b hcaplus

FILE 'HCAPLUS' ENTERED AT 10:18:29 ON 13 AUG 2002
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FILE COVERS 1907 - 13 Aug 2002 VOL 137 ISS 7
FILE LAST UPDATED: 12 Aug 2002 (20020812/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d que 131

L19	12164	SEA FILE=REGISTRY	ABB=ON	PLU=ON	79-06-1/CRN
L20	12113	SEA FILE=REGISTRY	ABB=ON	PLU=ON	L19 AND PMS/CI
L21	8861	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	ACRYLAMIDE/CT
L22	5863	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	L21 AND (POLY? OR COPOLY?)
L23	2315	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	"POLYMERS (L) WATER-SOL."/CT
L24	42770	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	FERTILIZERS+OLD/CT
L25	1007	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	FERTILIZER ANALYSIS/CT
L26	23967	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	FERTILIZER EXPERIMENT/CT
L28	729	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	SOIL STABILIZING AGENTS+OLD/CT
L29	3516	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	SOIL STABILIZATION/CT
L30	5306	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	SOIL AMENDMENTS/CT
L31	39	SEA FILE=HCAPLUS	ABB=ON	PLU=ON	(L20 OR L22 OR L23) AND (L24 OR L25 OR L26) AND (L28 OR L29 OR L30)

=> dup rem 112 113 117 131

FILE 'AGRICOLA' ENTERED AT 10:18:58 ON 13 AUG 2002

FILE 'HCAPLUS' ENTERED AT 10:18:58 ON 13 AUG 2002

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PROCESSING COMPLETED FOR L12

PROCESSING COMPLETED FOR L13

PROCESSING COMPLETED FOR L17

PROCESSING COMPLETED FOR L31

L35 47 DUP REM L12 L13 L17 L31 (1 DUPLICATE REMOVED)

=> d bib ab 1-47

L35 ANSWER 1 OF 47 HCAPLUS COPYRIGHT 2002 ACS
AN 2002:368433 HCAPLUS
DN 136:369160
TI Soil improving and fertilizing composition
IN Van der Merwe, Pieter Gideo
PA Aquasoil Limited, Virgin I. (Brit.)
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002038522	A2	20020516	WO 2001-2A145	20010914
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1353163	A	20020612	CN 2001-137837	20011108
PRAI ZA 2000-6460	A	20001109		

AB The invention provides a process for prepg. a soil improving and fertilizing compn. from fertilizer and crosslinked copolymer, the process including imparting an elec. charge to at least one of said copolymer and the fertilizer and bringing said copolymer and fertilizer into intimate contact with each other. The fertilizer and crosslinked copolymer are believed to be mech. fused to form the compn. The invention extends to a compn. and to an agricultural or horticultural method using the compn.

L35 ANSWER 2 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 2002:403756 HCAPLUS
 DN 136:402555
 TI Small particle polyacrylamide for soil conditioning
 IN Arnold, Charles A.; Wallace, Arthur
 PA Soil Enhancement Technologies LLC, USA
 SO U.S., 24 pp., Cont.-in-part of U.S. Ser. No. 290,484.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6395051	B1	20020528	US 1999-356271	19990716
WO 2001005878	A1	20010125	WO 2000-US19251	20000714
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1203048	A1	20020508	EP 2000-947376	20000714
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
US 2002095965	A1	20020725	US 2001-843608	20010426
PRAI US 1997-897015	B1	19970718		
US 1998-93269P	P	19980717		
US 1999-290484	A2	19990412		
US 1999-290483	A1	19990412		

US 1999-356271 A 19990716
 WO 2000-US19251 W 20000714
 US 2000-694708 A2 20001023

AB A method of producing an aq. soln. of water-sol. polyacrylamide (PAM) with a concn. of at least about 5 g per L includes the steps of providing a monovalent or divalent cation salt soln., and preferably a Ca salt soln., and adding water-sol. PAM particles to the salt soln. such that the PAM particles are essentially all dissolved within about 10 s. The PAM particles are characterized by a particle size that is about -100 mesh and consisting essentially of mols. having a mol. wt. of at least about 15 million a.u. Preferably, the small PAM particles are produced by a mill that produces bulk quantities of small dry, flowable PAM particles from larger com. grade particles. Small PAM particles produced in such a mill are essentially all sol. in plain water within about 10 s. After soln., the polymer conc. can be dild. with water to make stock solns. of the polymer for some purposes. For other purposes the conc. can be injected directly into irrigation systems. Effectiveness of the water-sol. polyacrylamide as a soil conditioner is considerably increased by co-use with a Ca salt, gypsum, fertilizer salts, or a combination of these salts, in addn. to the increased ease of making solns.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 3 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:680861 HCAPLUS

DN 135:226496

TI Soil amendments

IN Sato, Kazuyuki; Yamano, Yumi

PA Hymo Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001254077	A2	20010918	JP 2000-66353	20000310
AB	The soil amendments are prepd. from ionic polymeric dispersing agents and anionic water-sol. polymers. It is easy to use and has good soil-dispersing ability. The anionic water-sol. polymers are prepd. from (meth)acrylic acid and acrylamide by copolymn. in the presence of the ionic polymeric dispersing agents.				

L35 ANSWER 4 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:439267 HCAPLUS

DN 136:401233

TI Preparation of viscous water-maintaining fertilizer for planting Vetiveria zizanioides

IN Liu, Xiaofeng; Zeng, Binhua

PA Qianjiang Enterprise Co., Ltd., Guangzhou City, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 5 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

- PI CN 1322699 A 20011121 CN 2001-114796 20010608
 AB The title fertilizer is prepd. from polyacrylamide (a flocculant)-contg. viscous dewatered sludge obtained in wastewater treatment 88-95.5, full N-fertilizer 2-5, full P-fertilizer 1.5-4, and full K-fertilizer 1-3 wt.%. The product has high viscosity. It is useful for growing V. zizanioides which is useful for soil bioremediation, soil amendment, water and soil conservation, etc.
- L35 ANSWER 5 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 2001:484043 HCAPLUS
 DN 135:45719
 TI Preparation of chelating water-retaining organic and inorganic composite fertilizer with multiple trace elements
 IN Xie, Fanmiao; Cai, Yongping
 PA Tiandi Xinchengli Biological Technology Co., Ltd., Beijing, Peop. Rep. China
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 FAN.CNT 1
- | | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | CN 1280112 | A | 20010117 | CN 2000-123421 | 20000816 |
- AB The raw material of the fertilizer comprises org. material 40-60, inorg. material 40-50, org. chelated trace element 4-10%, and addnl. drought-resisting agent to 100%. The process comprises allowing to ferment org. material from one or more of sludge, peat, and org. waste; pulverizing inorg. material, mixing, prilling, and cooling. The chelated trace element is selected from EDTA-Ca, EDTA-Mg, EDTA-Cu, EDTA-Mn, EDTA-Mo, EDTA-Zn or DTPA-Fe; and the heavy metal-removing agent from one or more of fly ash, org. chelating compd. and ground phosphorite; and the drought-resisting agent from starch grafted polymer and polyacrylamide polymer.
- L35 ANSWER 6 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 2001:878625 HCAPLUS
 DN 137:78377
 TI Study on polymeric soil amendments I. study of amelioration of lateritic red soil by starch-grafted copolymer
 AU Long, Mingjie; Zhang, Hongwei; Zeng, Fansen
 CS Department of Polymer Materials Science and Engineering, South China University of Technology, Canton, 510640, Peop. Rep. China
 SO Turang Xuebao (2001), 38(4), 584-589
 CODEN: TJHPAE; ISSN: 0564-3929
 PB Kexue Chubanshe
 DT Journal
 LA Chinese
 AB The amelioration of lateritic red soil by starch-grafted copolymer was studied. The results showed that starch-grafted copolymer could increase the granular structure, water retention ability and soil water content.
- L35 ANSWER 7 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 2001:825475 HCAPLUS
 DN 137:19922
 TI Effect of humic acid graft copolymer on adsorption and desorption of soil potassium ion

- AU Zhang, Hongwei; Chen, Gang; Tan, Aimin; Huang, Tao; Ning, Ping; Chen, Zhiqian; Zeng, Fansen
 CS State Key Lab of Pulp and Paper Eng., South China University of Technology, Canton, 510640, Peop. Rep. China
 SO Lizi Jiaohuan Yu Xifu (2001), 17(5), 296-302
 CODEN: LJYXE5; ISSN: 1001-5493
 PB Lizi Jiaohuan Yu Xifu Bianjibu
 DT Journal
 LA Chinese
 AB The effect of amending lateritic red soil with nitrohumic acid graft **copolymer** with acrylic acid and acrylamide on the adsorption and desorption of K⁺ in soil was studied. The **copolymer** decreased the adsorption, and increased the desorption and leaching-resistant K⁺ in the amended soil. The utilization ratio of potassium fertilizer in soil was raised.
- L35 ANSWER 8 OF 47 AGRICOLA
 AN 2001:80354 AGRICOLA
 DN IND23233601
 TI Application of ion sensitive field effect transistor based sensors to soil analysis.
 AU Artigas, J.; Beltran, A.; Jimenez, C.; Baldi, A.; Mas, R.; Dominguez, C.; Alonso, J.
 AV DNAL (S494.5.D3C652)
 SO Computers and electronics in agriculture, May 2001. Vol. 31, No. 3. p. 281-293
 Publisher: Amsterdam : Elsevier, 1985-
 CODEN: CEAGE6; ISSN: 0168-1699
 NTE In the special issue: Advances in soil instrumentation / edited by N. Hancock and S. Raine.
 Includes references
 CY Netherlands
 DT Article
 FS Non-U.S. Imprint other than FAO
 LA English
 AB Standard methods to measure nutrient levels in soil are complex and time consuming due to the extraction and pre-treatment processes involved. Besides, the instrumentation used for these measurements is also expensive. Therefore, the use of chemical sensors warrants investigation since they can be placed directly in the soil and results can be provided in real or quasi-real time at a moderate cost. The control of nutrients with sensors will permit an optimisation of irrigation and **fertilisation** management systems and thus will be useful for reducing the environmental impact caused by the runoff of nutrients into surface and ground waters. In this work, the use of chemical sensors based on ion sensitive field effect transistors (ISFETs) for soil analysis is proposed. These devices are fabricated with microelectronic technology--providing some important advantages such as robustness, small size, low output impedance and mass production. Fabrication of pH, Ca(2+), K(+) and NO3(-) ISFETs with photocurable **polymeric** membranes and their evaluation in **aqueous** solutions is reported. Studies of their response in horticulture soils and comparison with standard methods have been performed. The results confirm the feasibility of ISFET based sensors for in-soil monitoring and the promising future applications they have.
- L35 ANSWER 9 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:117127 HCAPLUS
 DN 132:155688
 TI Soil treatment compositions and their use
 IN Rose, Simon Alexander Hanson; Turner, Jayne Anne
 PA Ciba Specialty Chemicals Water Treatments Limited, UK
 SO PCT Int. Appl., 24 pp.
 CODEN: PIXXD2

DT Patent
 LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008114	A1	20000217	WO 1999-EP5126	19990719
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9956183	A1	20000228	AU 1999-56183	19990719
AU 744421	B2	20020221		
EP 1105443	A1	20010613	EP 1999-942789	19990719
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
US 2001018047	A1	20010830	US 2001-838430	20010419
PRAI GB 1998-16784	A	19980731		
WO 1999-EP5126	W	19990719		
US 1999-361816	A3	19990727		
AB	The invention provides aq. soil treatment compns. comprising water and dissolved ionic water-sol. fertilizer in an amt. of .gtoreq.10 wt.% and dissolved water-sol. anionic polymer having .gtoreq.6 dL/g and ionic content .gtoreq.40 wt.%. Such concs. can have low viscosity and be pourable and be used as concs. for diln. in irrigation processes.			
RE.CNT 5	THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT			

L35 ANSWER 10 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:405413 HCAPLUS

DN 133:42926

TI Water-retaining gels for plant growing, their manufacture, and uses

IN Ohno, Katsuaki; Aoto, Yoshitaka

PA Daicel Chemical Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000166380	A2	20000620	JP 1998-348358	19981208
AB	The gels contain (A) 0.5-20 wt.% anionic water-sol. polymers selected from Na alginate, carboxymethyl starch (etherification degree 0.4-1.6), and carboxymethyl tamarind (etherification degree 0.4-1.6), (B) salts of Al, Mg, and/or Ca, and (C) 30-99.9 wt.% H2O. The gels are (1) placed in			

containers having holes and buried in soils in the rhizospheres of cultivated plants, (2) placed on or mixed with the soils in the rhizospheres of the plants, or (3) dried, pulverized, placed in the rhizospheres of the plants, and sprayed with H₂O for water retention. The polymers are slowly biodegraded in soils for controlled release of water, and Mg and/or Ca released are absorbed by the plants as fertilizer components. An aq. soln. contg. 0.3 wt. part Ca(H₂PO₄)₂ was added to an aq. soln. contg. 0.5 wt. part Na alginate (Duck Algin S) to give a gel (H₂O content 99.2 wt.%) showing good water retention and shape retention.

L35 ANSWER 11 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 2000:645655 HCAPLUS

DN 133:222088

TI Mixture of vegetal waste and a water-absorbent polymer

IN Bruggemann, Helmut; Hubner, Wolfgang

PA Stockhausen G.m.b.H. & Co. K.-G., Germany

SO Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1035092	A2	20000913	EP 2000-103776	20000223
	EP 1035092	A3	20011114		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19910267	A1	20000914	DE 1999-19910267	19990308
PRAI	DE 1999-19910267	A	19990308		
AB	Comminuted vegetal wastes, such as from olive oil manuf., are mixed with a water-absorbent polymer (Stockosorb 410, FavorPack, Cabloc). The mixt. is transportable and can be used as fertilizer and soil amendment or for further processing of the vegetal wastes, such as the extn. of polyphenols and xanthan gum.				

L35 ANSWER 12 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:751834 HCAPLUS

DN 131:350779

TI Soil treatment agents containing polymers and their uses

IN Tsukiyama, Fumitoshi; Tachibana, Yoshinobu

PA Showa Highpolymer Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11323331	A2	19991126	JP 1998-100393	19980327
PRAI	JP 1998-82482		19980313		
AB	The agents contain water-sol. copolymers prep'd. by (1) emulsion polyimg. a monomer mixt. contg. 2-50 parts (A) unsatd. carboxylic acids and 50-98 parts copolymerizable monomers in H ₂ O and (2) neutralizing the resulting copolymer dispersion with an aq. alkali soln. The agents are used for amendment of soil or prevention of soil erosion. The agents are also used for greening together with fertilizers, etc. The agents show low viscosity in spite of the high mol. wt., can form water-resistant film,				

and are not gelled when frozen. Et acrylate, Me methacrylate, and methacrylic acid were polymd. in H2O contg. iso-Pr alc. and aq. polyacrylamide soln. (protective colloid), and further polymd. with N-methylolacrylamide to give a water-sol. polymer soln. A mixt. of the polymer soln., Kentucky blue grass seeds, white clover seeds, fertilizers, and fiber was s prated over slope. Germination was obsd. after 4 days and covering of the slope with grass was completed after 3 mo without soil erosion and seed elution by wind and rain.

L35 ANSWER 13 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:728153 HCAPLUS

DN 131:322105

TI Manufacture of cultivation soil from dewatered sludge cake of inorganic wastewater

IN Kato, Nobuo; Nishimura, Hiroyuki; Abiko, Seiji

PA Telnite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11315280	A2	19991116	JP 1998-122119	19980501
AB	The soil is manufd. by (1) mixing dewatered cake of inorg. sludge with water-sol. polymers, (2) classifying the mixt., (3) adding soil amendments such as bark compost, leaf mold, peat moss, etc., and optionally fertilizers to the mixt., and then (4) curing the mixt. Lime-based solidifying agents and/or CaO may be added after the addn. of water-sol. polymers and neutralization of pH may be performed before the curing process by contacting with air. Dewatered cake obtained from flocculation process for quarry wastewater was kneaded with guar gum and the mixt. was sieved to remove .ltoreq.1 mm and .gtoreq.10 mm particles,. The sieved product was cured indoors for 7 days and then mixed with bark compost to give plant cultivation soil. The soil was further mixed with complex fertilizer and Ca superphosphate and used for cultivation of komatsuna.				

L35 ANSWER 14 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:78425 HCAPLUS

DN 130:138821

TI Soil amendment fertilizers containing water-soluble copolymers and minerals

IN Endo, Ryuichi; Masago, Tomoyuki

PA Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11029387	A2	19990202	JP 1997-197929	19970708
AB	The fertilizers, which show long-lasting fertilizing effect on infertile soil, comprise water-sol copolymers and mineral components contained therein. A liq. fertilizer contg. acrylamide-K acrylate copolymer, N, PO4, and K was applied to desert soil increased yields of wheat and corn. Toxicity of the fertilizer on carp was very low.				

L35 ANSWER 15 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:786002 HCAPLUS
 DN 130:81007
 TI Artificial aqueous media containing water-absorbing **polymers** and
 surfactants for planting
 IN Kamei, Masatoshi; Okano, Tetsuya; Suzuki, Tadayuki
 PA Kao Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10323121	A2	19981208	JP 1997-133130	19970523
AB	The aq. media contain 0.01-10 wt.% water-absorbing polymers and 0.0001-20 wt.% surfactants. Artificial media comprising the aq. media and soil, sand, inorg. substances, and/or supports are also claimed. Primula polyantha planted in an aq. medium contg. 0.67 wt.% crosslinked poly (acrylic acid) Na salt and 0.10 wt.% cetyltrimethylammonium chloride (Quartamin 60W) (I) showed better growth than that planted in a control medium without I.				

L35 ANSWER 16 OF 47 AGRICOLA
 AN 1999:14981 AGRICOLA
 DN IND21965677
 TI Macroreticular hydrogel effects on dissolution rate of controlled-release fertilizers.
 AU Chatzoudis, G.K.; Rigas, F.
 CS Soil Science Institute of Athens, Athens, Greece.
 AV DNAL (381 J8223)
 SO Journal of agricultural and food chemistry, July 1998. Vol. 46, No. 7. p. 2830-2833
 Publisher: Washington, D.C. : American Chemical Society.
 CODEN: JAFCAU; ISSN: 0021-8561
 NTE Includes references
 CY District of Columbia; United States
 DT Article
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English
 AB The effects of cross-linked sulfonated polystyrene granules (soil conditioner) with three different absorptions of deionized water were investigated on the dissolution of three different K2SO4 **fertilizers**. One of the **fertilizers** used was **water soluble**, whereas the other two were controlled-release **fertilizers** with differing nutrient release rates. Soil columns regularly rinsed with water for a period of 3 months were used for testing. It was found for **water-soluble fertilizer** that the quantities of K leached from the columns increased with the absorption capacity of the **polymers**. In the case of application of the **polymer** with the highest absorption capacity (100 g of water g-1 dry **polymer**), the **water-soluble** K leached was 188% more than that leached from controlled-release formulations. It was found also that the presence of hydrogels in soil increased dissolution of controlled-release **fertilizers**. Yet, this increase was relatively small and did not

depend significantly on absorption.

- L35 ANSWER 17 OF 47 AGRICOLA
 AN 1999:14022 AGRICOLA
 DN IND21961708
 TI Removing micronutrient metal cation interferences prior to titrimetric determination of polyphosphate chain length.
 AU Ray, S.K.; Chandra, P.K.; Varadachari, C.; Ghosh, K.
 CS University of Calcutta, Calcutta, India.
 SO Journal of agricultural and food chemistry, June 1998. Vol. 46, No. 6. p. 2222-2226
 Publisher: Washington, D.C. : American Chemical Society.
 CODEN: JAFCAU; ISSN: 0021-8561
 NTE Includes references
 CY District of Columbia; United States
 DT Article
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English
 AB Evaluation of chain lengths of polymeric phosphates is essential for the characterization of polyphosphate-based fertilizers. The titrimetric method, which is the most reliable and simple means of determining number average chain length, cannot be applied to solutions containing micronutrient ions. In this investigation, methods have been proposed for the elimination of metal ion interference prior to the titrimetric determination of the average chain length of polyphosphate solutions. when Cu²⁺, Fe³⁺, Mn²⁺, Mg²⁺, or Mo⁶⁺ are present in the solutions, solvent extraction of their complexes with 8-hydroxyquinoline at appropriate pH, prior to titration, was very effective. The interference due to Zn²⁺ was conveniently masked by the addition of potassium ferrocyanide and the titration carried out in the presence of the insoluble complexes. These methods do not introduce any perceptible additional error in the determination of average chain lengths. They can also be conveniently combined when more than one interfering ion is present in the polyphosphate solution. These methods, therefore, offer a rapid, simple, and reliable means for analyzing micronutrient polyphosphate fertilizers.
- L35 ANSWER 18 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1998:663121 HCAPLUS
 DN 130:51799
 TI Phosphate extractability and mobility in leached soil columns as affected by polymer amendments
 AU Falatah, A. M.
 CS Department of Soil Science College of Agriculture, King Saud University, Riyadh, 11451, Saudi Arabia
 SO Arid Soil Research and Rehabilitation (1998), 12(4), 335-343
 CODEN: ASRREU; ISSN: 0890-3069
 PB Taylor & Francis
 DT Journal
 LA English
 AB Little information is available concerning the beneficial effects of polyacrylamide (PAM) polymer on plant nutrient availability. To obtain a better understanding on this subject, a lab. column leaching study was conducted to investigate the effect of water-sol. synthetic polymers on the availability and mobility of fertilizer P added to the surface of two agricultural soils collected from the central and southern regions of Saudi Arabia. Air-dried soil samples were uniformly treated with three PAM polymers (one nonionic and two anionic) at rates of 0 and 200 mg kg⁻¹,

and packed into 50 cm columns. The top 5 cm of soil from each column was removed, mixed thoroughly with fertilizer P (KH₂PO₄) at rate of 400 mg kg⁻¹, and then replaced in the column. All columns were subjected to an intermittent leaching and incubation for 63 days. Extn. and anal. of each 5 cm layer of the soil columns at the end of the expt. showed that extractability and movement of added P in soils were drastically reduced in the presence of synthetic polymers compared to fertilizer P only. The extractability and movement of P decreased with increasing anionic charge of the polymer. Thus, the reactivity of P fertilizer with the polymers was the dominant and overriding determinate of the extn. and movement of surface-applied P. The transformation of added P showed a decrease in NH₄Cl-P, Al-P, and Ca-P fractions in all samples amended with polymers, whereas the Fe-P fraction increased with polymer addn. In general, evidence is provided for synthetic polymers playing a major role in reducing downward movement, and available inorg. fractions of added P in both calcareous and noncalcareous soils. The actual mechanisms involving fertilizer P reactions with polymers merit further investigation.

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L35 ANSWER 19 OF 47 AGRICOLA
AN 1998:49250 AGRICOLA
DN IND21243020
TI Novel slow-releasing micronutrient fertilizers. 2. Copper compounds.
AU Ray, S.K.; Varadachari, C.; Ghosh, K.
AV DNAL (381 J8223)
SO Journal of agricultural and food chemistry, Apr 1997. Vol. 45, No. 4. p. 1447-1453
Publisher: Washington, D.C. : American Chemical Society.
CODEN: JAFCAU; ISSN: 0021-8561
- NTE Includes references
CY District of Columbia; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB The development of a new type of slow-releasing copper **fertilizer** which is based on a short-chain polyphosphate structure, is described. Kinetics of **polymerization** of cupric phosphate at various Cu:P ratios and temperatures were studied, and the products were characterized. The desired **fertilizers** were formulated by selecting the appropriate copper polyphosphates and then neutralizing them to improve their properties. The **fertilizers** were analyzed by chemical methods, IR, XRD, solubility studies, and plant growth experiments. They were observed to have short-chain P-O-P linkages and contain amorphous as well as crystalline phases. Their **water solubility** was < 5%, but in organic complexants, like citric acid or diethylenetriaminepentaacetic acid, solubilities were > 90%, thereby indicating excellent plant availability. Plant growth experiments showed that copper calcium polyphosphate is an efficient source of copper, comparable to CuSO₄; however, lower dosages are required with the former than with the latter.
- L35 ANSWER 20 OF 47 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:566863 HCAPLUS
DN 125:203757
TI Coagulation of waste sludges with calcium compounds and polyelectrolytes and products therefrom for recycling

IN Fukase, Kazuo; Kitsugi, Kyoichi; Kishimoto, Kikuo; Kuramoto, Ryoza
 PA Naisu Tetsuku Jugen, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08173998	A2	19960709	JP 1994-336442	19941222
AB	<p>Waste sludges with water content ratio .gtoreq.120% are coagulated with 2.5-25 wt. parts CaSO₄ and/or Ca silicate, e.g., gypsum, cement powders, aerated lightwt. concrete, and 0.012-0.15 wt. parts polymer coagulants vs. 100 parts waste sludges as solids. Planting soils are obtained from coagulated sludges. Sprayable greening materials are obtained from the coagulated sludges by addn. of calcareous pH controllers, fertilizers, plant seeds, and fibers. Backfilling materials are obtained by dewatering the coagulated sludges and drying. The process gives stable coagulated sludges.</p>				

L35 ANSWER 21 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:211650 HCAPLUS

DN 122:8857

TI Lysimeter and greenhouse study using nitrogen-15 on N-losses and N-uptake by wheat and corn as affected by soil conditioner and nitrification inhibitor

AU Monem, M. Abdel; Soliman, S.; Gadalla, A. M.; Abbady, K.

CS Soils and Water Dept., Atomic Energy Auth., Cairo, Egypt

SO Bilateral Semin. Int. Bur. (1994), 19 (GERMAN-EGYPTIAN SEMINAR ON ENVIRONMENTAL RESEARCH, 1ST, 1994), 251-61

CODEN: BSIBEG

DT Journal

LA English

AB Due to its poor phys. and chem. properties, cultivation of newly reclaimed sandy soil needs not only application of nutrients but also their retention. In lysimeter expts., the effect of polyacrylamide (PAM) as soil conditioner and dicyandiamide (DCD) as nitrification inhibitor on N losses and N taken up by wheat was studied. 15N-labeled urea (2% atom ex.) was applied at the rate of 100 kg N/acre without or with PAM and/or DCD. Plants were harvested at full maturity, dry matter was recorded and N taken up, Ndff, and N losses were calcd. In sep. greenhouse expts., pots filled with 10 kg soil were planted with corn and treated with labeled urea without or with DCD at a rate of 120 kg N/acre, plants were harvested after 60 days. Results indicate that both PAM and DCD have significant effects on increasing the straw and grain yield of the wheat. Nitrogen recovery by whole wheat plant increased from 27.8% when urea was applied alone to 61.1 % for urea + PAM + DCD. At the same time N-losses decreased from 63.4-23.4%. Both dry matter yield and N uptake by corn increased significantly due to DCD addn., and losses of nitrogen decreased from 52.4% to 24.9%. Use of PAM and DCD could have a pos. impact on crop prodn. in the sandy soil.

L35 ANSWER 22 OF 47 AGRICOLA

AN 94:31955 AGRICOLA

DN IND20387339

TI Synthesis of 15N-labeled isobutylidene diurea, oxamide, and ureaforms for use in agronomic studies.

AU Hauck, R.D.
 AV DNAL (S590.C63)
 SO Communications in soil science and plant analysis, 1994. Vol. 25, No. 3/4.
 p. 191-197
 Publisher: New York, N.Y. : Marcel Dekker.
 CODEN: CSOSA2; ISSN: 0010-3624
 NTE Includes references
 CY New York (State); United States
 DT Article
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English

L35 ANSWER 23 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1993:545909 HCAPLUS
 DN 119:145909
 TI Dewatering of sludges and the use of the dewatered sludge as a soil
 amendment and fertilizer
 IN Lehmkuhl, Josef
 PA Nalva Umwelttechnik GmbH, Germany
 SO Ger. Offen., 9 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4129641	A1	19930311	DE 1991-4129641	19910906
AB	The sludge is conditioned with precipitants and additives including .gtoreq.1 Mg compd. and .gtoreq.1 phosphate, e.g. MgO, Mg(OH)2, MgHPO4, or MgKPO4, to bind the NH4+ ions. The sludge is then dewatered, yielding a sludge suitable as a soil amendment and fertilizer and a wastewater with a low nutrient content. To improve dewatering, a polyelectrolyte, such as an acrylic polymer or polyamine, can be added.				

L35 ANSWER 24 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1994:408094 HCAPLUS
 DN 121:8094
 TI Effect of soil conditioners and irrigation regime on the growth and
 nutrient uptake by alfalfa plants
 AU Sabrah, R.E.A.; Ghoneim, M.F.; Rabie, R.K.; Abdel Magid, H.M.
 CS Fac. Agric. Vet. Med., Univ. King Saudi, Al-Qassim, Saudi Arabia
 SO Egypt. J. Soil Sci. (1993), 33(1), 73-84
 CODEN: EJSSAF; ISSN: 0302-6701
 DT Journal
 LA English
 AB A pot trial was carried out to study the effect of five soil conditioners and two irrigation regimes on the growth and N and P uptake of alfalfa grown in sandy soil. The tested soil conditioners were: polyacrylamide, Hydro-grow 400 (a polyacrylamide), super org. compost, vermiculite and perlite. These were tested at successive rates and under two irrigation regimes: 50 and 75% of available water capacity (A. W. C) of the soil. Both fresh and dry wts. were increased by the application of soil conditioners esp., with the 75% irrigation regime, following the order: vermiculite > super org. compost > Hydro-grow 400 > polyacrylamide > perlite > control. N and P contents in the plant were increased by the application of soil conditioners. However, the highest applied rates of Hydro-grow 400, polyacrylamide and perlite caused a redn. in the growth

and nutrient uptake as compared with medium rates, esp. in the 50% irrigation regime. Statistically, the highest rates of vermiculite and org. compost proved to be the most beneficial for both fresh and dry wts. and nutrient uptake.

L35 ANSWER 25 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1992:469145 HCAPLUS
 DN 117:69145
 TI Polymer-based water absorbent
 IN Chmelir, Miroslav
 PA Chemische Fabrik Stockhausen G.m.b.H., Germany
 SO Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4029591	A1	19920326	DE 1990-4029591	19900919
	DE 4029591	C2	19950126		
	EP 481226	A1	19920422	EP 1991-115709	19910917
	EP 481226	B1	19940608		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 5264471	A	19931123	US 1991-761073	19910917
	AT 106774	E	19940615	AT 1991-115709	19910917
	ES 2055502	T3	19940816	ES 1991-115709	19910917
PRAI	DE 1990-4029591		19900919		
	EP 1991-115709		19910917		

AB An absorbent for water and aq. solns. comprises a water-swellaable co(polymer) and a powd. water-sol. inorg. or org. component. The 2nd component is incorporated into the co(polymer) at the end of polymn. The product is useful in agriculture, medicine, or as an absorbent for body fluids. A soln. of acrylic acid 423, acrylamide 625 and N,N'-methylenebisacrylamide 4.2 g in 2,100 mL water was neutralized with 680 g KOH, treated with a catalyst mixt. (azabisamidinepropane-2HCl 1.02, Irgacure-651 0.24 and tert-Buhydroperoxide 1.04 g) and polymd. by UV irradsn. The polymer gel obtained was comminuted and blended with 9-17% NPK fertilizer to give a product with high water-retention capacity, also usable as a sustained-release fertilizer.

L35 ANSWER 26 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1991:655140 HCAPLUS
 DN 115:255140
 TI Water-imbibing tablet, briquette and capsule containing growth-enhancing media and water-retentive copolymer used in forestry or agriculture
 IN Turpin, Kenneth A.
 PA Can.
 SO Can. Pat. Appl., 11 pp.
 CODEN: CPXXEB
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 2000640	AA	19910413	CA 1989-2000640	19891013
AB	Water-imbibing tablets comprise plant enhancement agents, such as fertilizers, sugars, cytokinins, IAA, and gibberellic acid, and				

biodegradable water-retentive polymers, such as I (R and n not defined) and crosslinked polyacrylamide copolymers. A tablet contained I 10, carnauba wax 10, (NH₄)H₂PO₄ 5, potash 10, melogel starch 20, Mg stearate 2, and talc 3%.

L35 ANSWER 27 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1991:655141 HCAPLUS
 DN 115:255141
 TI Water-imbibing tablet or capsule containing seed, growth enhancing media and water-retentive copolymers for direct planting
 IN Turpin, Kenneth A.
 PA Can.
 SO Can. Pat. Appl., 9 pp.
 CODEN: CPXXEB
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 2000620	AA	19910413	CA 1989-2000620	19891013
	AU 647753	B2	19940331	AU 1990-65014	19901004
PRAI	CA 1989-2000620		19891013		
	WO 1990-CA337		19901004		
AB	Water-imbibing tablets or capsules comprise seeds, seed enhancement agents, such as fertilizers, sugars, cytokinins, IAA, and gibberellic acid, and biodegradable, water-retentive polymers, such as I (R and n not defined copolymer) and crosslinked polyacrylamide. Tablets, which incorporated pine seeds, comprised I 10, crosslinked polyacrylamide copolymer 40, carnauba wax, (NH ₄)H ₂ PO ₄ 5, potash 10, melogel starch 20, Mg stearate 2, and talc 3%.				

L35 ANSWER 28 OF 47 AGRICOLA
 AN 92:110967 AGRICOLA
 DN IND92066201
 TI Effects of soluble salts and fertilizers on water storage by gelforming soil conditioners.
 AU Woodhouse, J.M.; Johnson, M.S.
 CS University of Liverpool, Liverpool, UK
 AV DNAL (80 AC82)
 SO Acta horticulturae, Dec 1991. No. 294. p. 261-269
 Publisher: Wageningen : International Society for Horticultural Science.
 CODEN: AHORA2; ISSN: 0567-7572
 NTE Paper presented at the "Second Symposium on Horticultural Substrates and their Analysis," September 10-14, 1990, Guernsey, United Kingdom.
 Includes references.
 DT Article
 FS Non-U.S. Imprint other than FAO
 LA English

L35 ANSWER 29 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1991:491227 HCAPLUS
 DN 115:91227
 TI Water-absorbing polymers in agriculture
 AU Artyushin, A. M.; Przheval'skaya, L. K.; Epishina, G. P.; Chelyshev, V. A.; Ryazanova, I. V.; Bychkova, T. M.
 CS Mosk. S-kh. Akad., Moscow, USSR
 SO Khim. Sel'sk. Khoz. (1991), (5), 22-7

CODEN: KSKHE7; ISSN: 0235-2516

DT Journal
LA Russian

AB Polyacrylamide gels, formed without filler or in the presence of 2.5 parts zeolite/part monomer had water-stable 3-dimensional structures. Treatment of the gels with 10% KOH sharply decreased their N content, indicating hydrolysis and formation of an acrylamide-K acrylate copolymer with NH₃ release. A 65% hydrolysis at 20 or 100.degree. occurred within 24 h and 20 min, resp. Decreasing KOH concn. from 10 to 7% decreased hydrolysis rate by 15% at both the temps. Approx. 80-90% of the KOH-K was exchangeably bound in the copolymer. The copolymer contained .ltoreq.17% K and 5% N. In 2N H₂SO₄ polyacrylamide was transformed into a copolymer of acrylamide with acrylic acid with retention of the original three dimensional structure. Within 2 mo of growing pelargonium on peat amended with the acrylamide-K acrylate copolymer, the copolymer-K decreased 3.5-fold; this indicated availability of the polymer-K, whereas polymer-N was only 1-1.5% available. The K-copolymer was stable within 1 yr in peat soil in the field and retained its spatial structure. The K-copolymer is a slow-action K fertilizer.

L35 ANSWER 30 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 1991:184284 HCAPLUS

DN 114:184284

TI Hydrophilic polymers - their response to soil amendments and effect on properties of a soilless potting mix

AU Wang, Yin Tung; Gregg, Lori L.

CS Agric. Res. Ext. Cent., Texas A and M Univ., Weslaco, TX, 78596, USA

SO J. Am. Soc. Hortic. Sci. (1990), 115(6), 943-8

CODEN: JOSHB5; ISSN: 0003-1062

DT Journal

LA English

AB The levels of hydration of several hydrophilic polymers (hydrogels) varied greatly. Starch-based polymers had the fastest rate of hydration (<2 h), followed by a propenoate-propenamide copolymer. Polyacrylamide materials required 4-8 h to become fully hydrated. Max. water retention in distd. water varied from 400 to 57 g of water per g of dry material. All hydrogels retained less water in the presence of metal ions or fertilizers in the soaking soln., with substances releasing Fe²⁺ being the most detrimental. After exposure to fertilizers and ions, the water-holding capacity of a polyacrylamide with a high degree of cross linkage, but not that of hydrogels of the other structures, was fully recovered by subsequently soaking in distd. water. Pots amended with a polyacrylamide polymer but without Micromax (a micronutrient source) reached max. water retention after six irrigations, while those with Micromax required 10 irrigations to reach peak water retention. The amts. of water being held in pots decreased after repeated fertilization. Medium vol. increased with increasing levels of the polyacrylamide Supersorb C (0, 2, 4, or 6 g/pot). Micromax incorporated in medium amended with Supersorb C caused a depression in vol. Medium bulk d., total water retention, and water retention per unit vol. of medium were increased by the incorporation of the hydrogel, regardless of the presence of Micromax. Noncapillary porosity measured at container capacity in medium amended with Micromax progressively decreased as the amt. of hydrogel increased, but remained unchanged in medium without Micromax. Repeated drying and rehydration of the medium resulted in reduced water retention and increased noncapillary pore space.

- L35 ANSWER 31 OF 47 AGRICOLA
 AN 90:55316 AGRICOLA
 DN IND90033663
 TI Fertilizer salts reduce hydration of polyacrylamide gels and affect physical properties of gel-amended container media.
 AU Bowman, D.C.; Evans, R.Y.; Paul, J.L.
 CS University of Nevada, Reno, NV
 AV DNAL (81 S012)
 SO Journal of the American Society for Horticultural Science, May 1990. Vol. 115, No. 3. p. 382-386
 Publisher: Alexandria, Va. : The Society.
 CODEN: JOSHB5; ISSN: 0003-1062
 NTE Includes references.
 DT Article
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English
 AB Hydration of three commercial hydrophilic polyacrylamide gels in deionized water ranged from 340 to 420 g per gram of gel. Hydration was progressively inhibited by fertilizer salt concentrations from 0 to 20 meq.liter⁻¹. Hydration of the gels in the presence of divalent cations (Ca²⁺ and Mg²⁺) and monovalent cations (K⁺ and NH₄⁺) at 20 meq.liter⁻¹ was reduced to approximately 10% and 20% of maximum, respectively. The valence of the accompanying anion did not affect hydration. Gel hydration was unaffected by urea over the range of 2 to 20 mM. Sequential rinses of the hydrated gels with deionized water completely reversed the inhibition due to the monovalent, but not the divalent, cations. The electroconductivity (EC) of the external solution increased during gel hydration. In the presence of fertilizer salts, the physical properties of a 2 redwood sawdust : 1 sand (v/v) container mix were unaffected by hydrophilic gel additions of 1.2 and 2.4 kg.m⁻³ (1 X and 2 X the recommended rate, respectively).
- L35 ANSWER 32 OF 47 AGRICOLA
 AN 90:78546 AGRICOLA
 DN IND90050231
 TI Interactions encountered when supplying nitrogen and phosphorus **fertilizer** and a **water-soluble polyacrylamide** to soil.
 AU Wallace, A.; Wallace, G.A.
 CS University of California, Los Angeles, CA
 AV DNAL (QK867.J67)
 SO Journal of plant nutrition, 1990. Vol. 13, No. 3/4. p. 343-347
 Publisher: New York, N.Y. : Marcel Dekker.
 CODEN: JPNUDS; ISSN: 0190-4167
 NTE Paper published in "Interactions of Limiting Factors in Crop Production", a special issue devoted to research papers by Dr. Arthur Wallace.
 Includes references.
 DT Article
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English
- L35 ANSWER 33 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1989:456480 HCAPLUS
 DN 111:56480
 TI Agricultural soil improver comprising polysaccharides and polyelectrolytes
 IN Wallace, Garn A.; Wallace, Arthur
 PA USA

SO U.S., 7 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4797145	A	19890110	US 1986-830078	19860218
AB	<p>Mixts. of a synthetic water-sol. polyelectrolyte and a polysaccharide with water are soil improvers. The polyelectrolyte is polyacrylamide (mol. wt. >15,000) mixed with H₂O at 0.0001-0.1%. The polysaccharide is polygalactosylmannose, present at 1-300% of the amt. of polyelectrolyte. Soil treatment with irrigation water contg. 2 ppm mixt. of 80% polyacrylamide, 16% polygalactosylmannose and 4% citric acid, at 4 ppm (NH₄)₂SO₄ improved water penetration into the soil and decreased soil slacking. Polyacrylamide by itself was less effective.</p>				

L35 ANSWER 34 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1991:470412 HCAPLUS
 DN 115:70412

TI The interaction between polyacrylamide as a conditioner for sandy soils and some plant nutrients. I. Effect on the mechanical strength and the stability of soil structure

AU El-Hady, O. A.; Abd El-Hady, B. M.
 CS Soils Water Use Lab., Natl. Res. Cent., Dokki, Egypt
 SO Egypt. J. Soil Sci. (1989), 29(1), 51-65
 CODEN: EJSSAF; ISSN: 0302-6701

DT Journal
 LA English

AB A virgin sandy soil from the Badr Area (South Tahreer), polyacrylamide (PAM) solns. having mol. wts. of 177,800, 784,000, 1,360,000 and 3,303,000 at 0.1, 0.15 and 0.2% by wt. and a mixt. of KNO₃, KH₂PO₄ and sulfates of Zn, Mn, Fe and Cu were used. Three treatments were carried out for each polymer and each application rate: (1) treated soil with the plant nutrients only (the control treatment), (2) soil treated with a mixt. of plant nutrients and the polymer and (3) soil first treated with plant nutrients, then treated with the polymer. Unconfined compressive strength of air-dried soil cylinders, aggregate percentage (AG%), water-stable aggregate size distribution and erosion index were detd. to describe the interaction between PAM and plant nutrients on the mech. strength and the stability of soil structure. Non-conditioned sandy soil had low mech. strength and weak stability. The effectiveness increasing mech. strength and water stability of the soil is dependent upon polymer mol. wt. and rate, and nutrient conditioner combination. PAM with very high mol. wt. and high viscosity has limited ability to diffuse into soil aggregates. On the other hand, too small mols. lead to an inability to form stable inter-particle bonds. PAM having mol. wt. in the range of one million afforded a water-stable soil structure. It could be sprayed and mixed with sandy soil using ordinary pesticide sprayers. The effectiveness was much higher when plant nutrients were mixed with the polymer before soil conditioning. Since the difference between the two application rates of the polymer, i.e., 0.15 and 0.2%, did not exceed 5.4 and 3.3% for water-stable aggregates >1 mm and the erosion index, resp., the lower rate is preferable. The polyacrylamide-fertilizer interaction is discussed in terms of: (a) polymer crosslinking by reaction with hydrated di- and polyvalent metal ions and its effect on polymer mol. wt., (b) bridge formation through SO₄ which favor the adsorption of the polymer on sand

particles, (c) the external and(or) internal adsorption of the polymer mols. on the surfaces of the fine soil fractions (clay, org. matter and CaCO₃), and (d) the complexation of the polymer mols. with Ca²⁺ released from CaCO₃. Activation of sand surfaces by pptn. of micronutrients on quartz grain surfaces is considered.

L35 ANSWER 35 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1988:548534 HCAPLUS
 DN 109:148534
 TI Soil amendment consisting of polymer-entrapped fertilizer
 IN Youssef, Nabil N.; Miller, Gene W.
 PA USA
 SO U.S., 11 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4762545	A	19880809	US 1986-936519	19861201
	US 4927447	A	19900522	US 1988-194043	19880513
PRAI	US 1986-936519		19861201		

AB A soil amendment material comprises a water swellable hydrophilic polymer infused with high concns. of plant nutritive salts. The amendment is prepd. by repeated soaking of hydrophilic swellable polymer particles in a soln. of nutritive salts in water, followed by heat application to drive off the entrained water, leaving the nutrients entrapped in the polymer particles. A nutrient soln. contained 1M KH₂PO₄ 10, 1M KNO₃ 50, 1M Ca(NO₃)₂ 50, 1M MgSO₄ 20, 500 ppm B (as H₃BO₃) 10, 500 ppm Mn (as MnCl₂) 10, 50 ppm Zn (as ZnCl₂) 10, 20 ppm Cu (as CuSO₄) 20, 10 ppm Mo (as Na₂MoO₄) 10, and 1000 ppm Fe (as Fe-EDDHA) 20 mL. Polyacrylamide particles (30 g) were soaked with 200 mL nutrient soln. and dried at 120.degree.. The cycle was repeated 5 times. Expts. with pea and beet showed growth enhancement by the amendment.

L35 ANSWER 36 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1988:54948 HCAPLUS
 DN 108:54948
 TI Influence of rock phosphate fertilization and phosphate dissolving bacteria on iron, manganese and zinc uptake by sour orange seedlings grown in a pot experiment using sandy soil treated with PAMG
 AU Boutros, B. N.; Azazy, Mohamed A.; Saber, Mohamed
 CS Bot. Lab., Natl. Res. Cent., Cairo, Egypt
 SO Egypt. J. Soil Sci. (1987), 27(3), 371-7
 CODEN: EJSSAF; ISSN: 0302-6701
 DT Journal
 LA English
 AB In a pot expt. with sandy soil, the Fe, Mn, and Zn nutritional status of sour orange seedlings fertilized with rock phosphate (3.65 and 7.3 g/pot), N, K, and Folifertile spray was evaluated in the presence and absence of polyacrylamide gel (PAMG, 0.1%) and(or) biofertilizer (liq. culture of Bacillus megatherium var phosphaticum at 10 mL/pot). The foliar application of micronutrients increased the concns. and uptake of Fe, Mn, and Zn in the various organs in comparison with the control (no fertilization). Soil conditioning with PAMG in combination with biofertilization increased the efficiency of micronutrient application at both rock phosphate levels. The amts. of trace elements in seedlings were

greater with the higher rate of rock phosphate than the lower one. The biofertilizer had a more marked effect on Fe than on Mn or Zn status.

- L35 ANSWER 37 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1988:54947 HCAPLUS
 DN 108:54947
 TI The combined effect of soil conditioners and biofertilizers on growth and nutrient uptake by citrus seedlings at nursery stage
 AU Boutros, Boutros N.; Azazy, Mohamed A.; Saber, Mohamed
 CS Bot. Lab., Natl. Res. Cent., Cairo, Egypt
 SO Egypt. J. Soil Sci. (1987), 27(3), 349-60
 CODEN: EJSSAF; ISSN: 0302-6701
 DT Journal
 LA English
 AB The effect of soil conditioning with polyacrylamide gel (PAMG) and biofertilization with phosphate-dissolving bacteria (PDB, *Bacillus megatherium* var *phosphaticum*) on growth and nutrient uptake by sour orange was studied in a pot expt. on sandy soil. Applying PAMG with a basal dose of N-P-K resulted in a 204% increase in the total dry matter per plant with ref. to N-P-K treatment alone, and the decrease in total dry matter with biofertilization plus N-K fertilization in relation to N-P-K fertilization was only 12%. The PAMG + N-P-K treatment resulted in the greatest plant height, total leaf no., and total leaf area per plant. P uptake increased 175 and 241% in comparison with the unfertilized control with PDB + N-K and PDB + N-K + PAMG application, resp. Use of PAMG alone or in combination with PDB increased the uptake of Mn and Zn and esp. that of Fe.
- L35 ANSWER 38 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1986:552137 HCAPLUS
 DN 105:152137
 TI Polyacrylamide-bound fertilizer
 IN Pekmez, Paul
 PA Beck, Leon, S. A., Fr.
 SO Fr. Demande, 8 pp.
 CODEN: FRXXBL
 DT Patent
 LA French
 FAN.CNT 1
- | | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | FR 2572413 | A1 | 19860502 | FR 1984-16779 | 19841031 |
| | FR 2572413 | B1 | 19861212 | | |
| | EP 181983 | A1 | 19860528 | EP 1984-440059 | 19841129 |
| | R: AT, BE, CH, DE, GB, IT, LI, LU, NL, SE | | | | |
| PRAI | FR 1984-16779 | | 19841031 | | |
| AB | Polyacrylamide granules, eventually copolymd. or cross-linked, are described, with 10-50% fertilizers incorporated into their mol. structure. Thus, granules contained KH ₂ PO ₄ 8.27, KNO ₃ 17.59, water 10 at cross-linked Na polyacrylamide to 100% by wt. The granules have a swelling, aerating, moisture-retaining and fertilizing effect. These properties of the granules can be improved by exposure to ionizing radiations. | | | | |
- L35 ANSWER 39 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1986:441822 HCAPLUS
 DN 105:41822
 TI Interactions of soil conditioner with other limiting factors to achieve

- high crop yields
 AU Wallace, Arthur; Abouzamzam, A. M.
 CS Lab. Biomed. Environ. Sci., Univ. California, Los Angeles, CA, 90024, USA
 SO Soil Sci. (1986), 141(5), 343-5
 CODEN: SOSCAK; ISSN: 0038-075X
 DT Journal
 LA English
 AB Tomato (*Lycopersicon esculentum* cv. Tropic) was used as a test plant in evaluating the interactions for simultaneously correcting deficiencies of N and P and improving phys. properties of soil with an anionic polyacrylamide soil conditioner. The 3 limiting factors were improved singly and in all possible combinations. There was response to each input. The least response to the soil conditioner was without N and P, and the most response was when N and P were also used. The combined effect appeared to be synergistic. The results emphasize that the best crop management system involves overcoming as many limiting factors as possible.
- L35 ANSWER 40 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1985:559644 HCAPLUS
 DN 103:159644
 TI Ammonium and nitrate retention by a hydrophilic gel
 AU Henderson, Janet C.; Hensley, David L.
 CS Dep. Hortic., Kansas State Univ., Manhattan, NY, 66506, USA
 SO HortScience (1985), 20(4), 667-8
 CODEN: HJHSAR; ISSN: 0018-5345
 DT Journal
 LA English
 AB Studies were conducted to det. if NH_4^+ or NO_3^- were retained by a hydrophilic starch-K polyacrylate-polyacrylamide graft copolymer [71052-38-5] gel. Silica sand was amended with 0, 2, 3, and 4 kg/m³ hydrophilic gel. NH_4NO_3 soln. was applied to dry and H_2O -satd. amended sand in pots. The amended medium was washed with H_2O , leachate was collected, and NH_4^+ and NO_3^- contents were detd. More NH_4^+ was retained by all concns. of hydrophilic gel-amended sand than in sand alone, esp. in media not satd. prior to application. NO_3^- was not retained in large amts. by any medium.
- L35 ANSWER 41 OF 47 AGRICOLA
 AN 84:111851 AGRICOLA
 DN IND84089283
 TI Regulatory aspects of **water-soluble** methylene urea **polymers** in **fertilizer**.
 AU Minyard, J.P. Jr
 AV DNAL (S631.A7)
 SO Official publication - AAPFCO Association of American Plant Food Control Officials., 1984 No. 37. p. 94-105 ill
 Publisher: West Lafayette, Ind. : The Association.
 ISSN: 0094-8764
 NTE Includes references.
 DT Article
 FS U.S. Imprints not USDA, Experiment or Extension
 LA English
- L35 ANSWER 42 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1984:155719 HCAPLUS
 DN 100:155719

TI Sandy soil plantation in semi-arid zones by polyacrylamide gel conditioner prepared by ionizing radiation. Part of a coordinated program on radiation modified polymers for biomedical and biochemical applications. Final report for the period 1 July 1979-31 August 1983

AU Azzam, R. A. I.

CS Nucl. Res. Cent., Inshas, Egypt

SO Report (1983), IAEA-R-2596-F, 24 pp. Avail.: INIS
From: INIS Atomindex 1983, 14(24), Abstr. No. 806147

DT Report

LA English

AB Polyacrylamide gel prep'd. by ionizing radiation was capable of furnishing adequate conditions for sandy-soil cultivation in semi-arid zones. The gel can be tailored for any soil texture under various climatic conditions. The sand-gel combination maintains 3 cycles of complete destruction and reformation without significant changes in erosion index. Water-holding capacity and retention at different suctions in treated sand are increased. This increases water use efficiency. Fertilizer use efficiency is also increased to approx. 3-fold that of fertile clayey soil.

L35 ANSWER 43 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 1983:574837 HCAPLUS

DN 99:174837

TI Soil amendment production

PA Nitto Chemical Industry Co., Ltd., Japan

SO Jpn. Tokyo Koho, 6 pp.

CODEN: JAXXAD

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58028313	B4	19830615	JP 1974-144080	19741217
AB A granular soil amendment is formulated from acrylamide polymers, silicic acid or silicates and one or more of phosphates, nitrates, and sulfates, or free forms, of urea, guanylurea, guanidine, dicyanidiamide, and amidinothiourea. The product markedly improves aggregation of clayey soil. Thus, a compn. contg. powd. Na salt of acrylamide-acrylic acid copolymer [25987-30-8] (acrylamide/acrylic acid ratio 85:15, av. mol. wt. 3,000,000) 7, Na2CO3 0.4, amidinothiourea 5, burnt diatomaceous earth 90, and water 50 parts was granulated. The product had a high aggregation rate for kaolin.				

L35 ANSWER 44 OF 47 HCAPLUS COPYRIGHT 2002 ACS

AN 1984:208550 HCAPLUS

DN 100:208550

TI Fertilizer and soil amendment concentrates with high humus content

IN Kazo, Bela; Foreth, Robert; Gati, Ferenc; Horkay, Ferenc

PA Hung.

SO Hung. Teljes, 15 pp.

CODEN: HUXXB

DT Patent

LA Hungarian

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
HU 28153	O	19831128	HU 1982-508	19820219
HU 183828	B	19840628		

AB Title materials are manufd. from vinyl alc-vinyl phosphate copolymer [88209-88-5], vinyl alc.-vinyl acetate-vinyl phosphate copolymer [89558-43-0], or other similar copolymers, and humates, obtained from liq. manure, with the eventual addn. of surfactants, lignite, polyalcs., and (or) NPK fertilizers. Thus, a 20% aq. dispersion is prepd. from methacrylic acid-vinyl acetate copolymer [24980-63-0] 12, K and Na humate (prepd. from brown coal and liq. manure) 7.5, dioctyl sulfosuccinate 0.2, and actylphenol polyethylene glycol 0.05 parts by wt. The prepn., applied at 4-6.8 kg/100 m², improves acid and calcareous sandy soils.

L35 ANSWER 45 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1983:15935 HCAPLUS
 DN 98:15935
 TI Production of organic fertilizer-soil amendments
 PA Nitto Chemical Industry Co., Ltd., Japan
 SO Jpn. Tokkyo Koho, 5 pp.
 CODEN: JAXXAD
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57039274	B4	19820820	JP 1975-48205	19750422
AB	Granules of acrylamide polymers and silicic acid and (or) silicates are coated with org. fertilizer powder to obtain an org. fertilizer having soil-aggregating activity. Thus, powd. Na salts of acrylamide-acrylic acid copolymer (mol. wt. 300,000) 10, calcined diatomaceous earth 90, and water 55 parts were mixed and granulated. The wet granules were mixed with fish meal (50 parts) and dried to yield an org. fertilizer having soil-improvement activity.				

L35 ANSWER 46 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1981:496096 HCAPLUS
 DN 95:96096
 TI Increase in mineral fertilizer efficacy by applying polyacrylamide on light-textured soils of the Bryansk Region
 AU Tarasova, M. G.
 CS USSR
 SO Byull. Vses. Nauchno-Issled. Inst. Udobr. Agropochvoved. im. D. N. Pryanishnikova (1979), 43, 48-50
 CODEN: BVUABN
 DT Journal
 LA Russian
 AB Polyacrylamide [9003-05-8] (PAA), applied at 0.1 wt.% of arable layer, improved the soil properties and enhanced the efficacy of fertilizers applied to oat. The optimum fertilizer rate on the background of PAA applied was N 90, P 60, K 90, and Mg 30 kg/ha. PAA improved the nutrient utilization from fertilizers and increased the chlorophyll content of the plants. PAA had also a pos. aftereffect on oat-following rye.

L35 ANSWER 47 OF 47 HCAPLUS COPYRIGHT 2002 ACS
 AN 1978:109994 HCAPLUS
 DN 88:109994
 TI Neutralization and utilization of various wastes
 AU Muto, Yoshio; Mitsumatsu, Fumio; Nishikawa, Harumitsu; Hosomura, Hajime; Satake, Kazuyoshi; Ishikure, Yoshinao; Otobe, Sadao; Yajima, Takamitsu;

Sonoda, Yoji
CS Gifu-Ken Kogyo Gijitsu Cent., Gifu, Japan
SO Gifu-ken Kogyo Gijutsu Senta Kenkyu Hokoku (1977), 9, 13-31
CODEN: GKGHDM
DT Journal
LA Japanese
AB Lime sludge is recovered from lime fertilizer prodn. It is discolored. By adding 5% BaCl₂ and sintered at 750.degree. for 20 min, .apprx.80% whiteness was achieved. The lime sludge was tested as a cement additive. **Polymer** sludges (**polyacrylamide** [9003-05-8] and alum) from a water treatment plant were placed in soil for growing rice, cabbage, etc. The germination rate was restricted to 96-9% of normal by 1000 ppm **polymer**. Acrylamide [79-06-1] monomer 50 ppm killed plants. The residence time of monomer was shorter in high land than in paddy fields. Another expt. involves thermal cracking of the **polymer**.